



MI Flu Focus

Influenza Surveillance Updates

Bureaus of Epidemiology and Laboratories



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Updates of Interest:

- Iowa reported a hospitalized case of [variant H1N1](#) (H1N1v) in a person with swine contact; case is 3rd H1N1v in 2015.

Influenza Surveillance Report for the Week Ending August 22, 2015

Michigan Disease Surveillance System

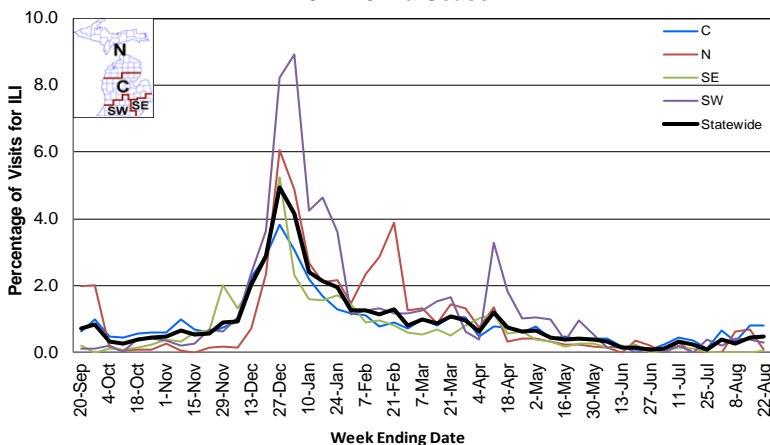
MDSS influenza data indicated that compared to levels from the previous week, aggregate reports decreased while individual reports remained the same. Individual reports are higher while aggregate reports are similar to levels seen during the same time period last year.

Emergency Department Surveillance

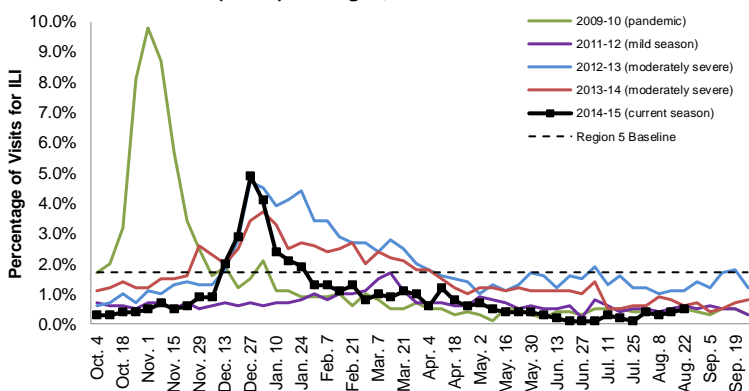
Compared to levels from the week prior, emergency department visits from constitutional complaints and respiratory complaints remained the same. Levels of constitutional and respiratory complaints are lower than levels seen during the same time period last year.

- 2 constitutional alerts (1SW, 1C)
- 4 respiratory alerts (2SW, 1C, 1N)

Percentage of Visits for Influenza-like Illness (ILI)
Reported by Sentinel Providers, Statewide and Regions
2014-15 Flu Season



Percentage of Visits for Influenza-like Illness (ILI) Reported by
the US Outpatient Influenza-like Illness Surveillance Network
(ILINet): Michigan, Select Seasons



Sentinel Provider Surveillance

The proportion of visits due to influenza-like illness (ILI) increased to 0.5% overall; this is below the regional baseline (1.7%). A total of 29 patient visits due to ILI were reported out of 6,232 office visits. Please note: These rates may change as additional reports are received.

Number of Reports by Region (19 total):

- C (5)
- N (4)
- SE (8)
- SW (2)

Become a Sentinel Provider!

As part of pandemic influenza surveillance, CDC and MDHHS highly encourage year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Stefanie DeVita (devitas1@michigan.gov) for more information.

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Hospital Surveillance

The CDC Influenza Hospitalization Surveillance Project provides population-based rates of hospitalization due to severe influenza illness through active surveillance and chart review of lab-confirmed cases, from Oct. 1, 2014 – Apr. 30, 2015, for Clinton, Eaton, Genesee, and Ingham counties. The cumulative total during the reporting period was 88 pediatric hospitalizations (45.6 per 100,000 population) and 374 adult hospitalizations (54.6 per 100,000) within the catchment area.

The MDHHS Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide, and 9 hospitals (C, SE & SW) reported. Results are listed in the table below. Additional hospitals are welcome to join; please contact Seth Eckel at eckels1@michigan.gov.

Age Group	New Flu Hospitalizations Reported	Total 2014-15 Flu Hospitalizations to Date
0-4 years	0	31 (1N, 21C, 4SE, 5SW)
5-17 years	0	33 (28C, 5SE)
18-49 years	0	68 (2N, 12C, 49SE, 5SW)
50-64 years	0	130 (3N, 14C, 99SE, 14SW)
65 years & older	0	529 (20N, 19C, 435SE, 55SW)
Total	0	791 (26N, 94C, 592SE, 79SW)

Laboratory Surveillance

MDHHS Bureau of Laboratories reported 2 new positive influenza results: 2 A/H3. A total of 568 positive influenza results have been reported for the 2014-15 season. Influenza results for the 2014-15 season are in the table below.

Respiratory Virus	# Positive Respiratory Virus Results by Region				Total	# Specimens Antigenically Characterized	# Tested for Antiviral Resistance
	C	N	SE	SW			# Resistant / Total # Tested
2009 A/H1N1pdm				1	1		
Influenza A/H3	114	34	101	248	497	16* (3 A/Texas/50/2012-like**, 13 A/Switzerland/9715293/2013-like)	0 / 146
Influenza B	20	6	19	23	68	68 (48 B/Yamagata lineage [3* B/Massachusetts/02/2012-like†, 9* B/Phuket/3073/2013-like††], 17 B/Victoria lineage, 3 inconclusive)	
Influenza A, unsubtypeable	1			1	2		

*Specimens antigenically characterized by CDC; **A/Texas/50/2012 (H3N2) virus is the H3N2 component of the 2014-15 Northern Hemisphere flu vaccine, A/Switzerland/9715293/2013-like is an antigenic variant of the current vaccine virus; †B/Massachusetts/02/2012 virus is the B/Yamagata component of the 2014-15 Northern Hemisphere trivalent and quadrivalent flu vaccines; ††B/Phuket/3073/2013 virus is the B/Yamagata component of the 2015-16 Northern Hemisphere trivalent and quadrivalent flu vaccines.

In addition, 8 sentinel clinical labs (2SE,2SW,4C) reported influenza results. One lab (SE) reported sporadic influenza A activity. No labs reported influenza B activity. One lab (SW) reported sporadic Parainfluenza activity. No labs reported RSV activity. One lab (SW) reported sporadic Adenovirus activity. No labs reported hMPV activity. Testing volumes remain low or very low in all regions.

Influenza Congregate Settings Outbreaks

There were no new facility outbreaks reported to MDHHS. There have been a total of 155 respiratory facility outbreaks reported to MDHHS for the 2014-15 season. Respiratory facility outbreaks are listed in the table below by facility type and surveillance region.

Facility Type	C	N	SE	SW	Total
Adult Care Facility		1	2		3
Long-Term Care / Assisted Living Facility	28	12	36	39	115
K-12 School	1		2		3
Daycare				1	1
Unknown / Investigation Pending	16		4	9	29
Healthcare Facility				3	3
Correctional Facility				1	1
Total	45	13	44	53	155

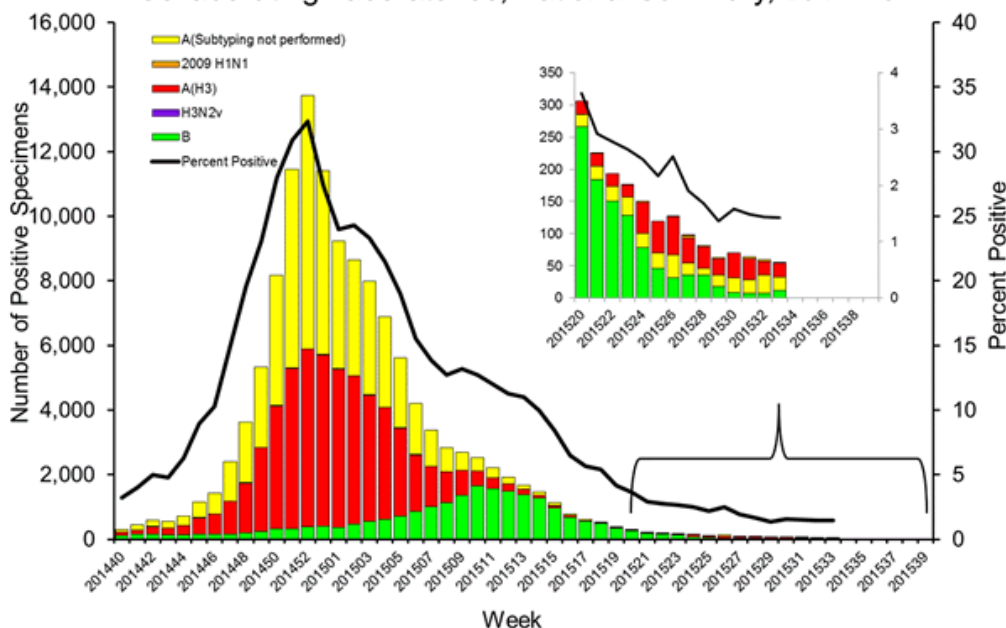
Influenza-associated Pediatric Mortality

No new influenza-associated pediatric deaths were reported to MDHHS. There have been a total of 3 influenza-associated pediatric deaths (1C, 1SE, 1SW) reported to MDHHS for the 2014-15 season.

National: In the United States, 0.8% of outpatient visits were due to influenza-like illness, which is below the national baseline of 2.0%. There have been 145 influenza-associated pediatric deaths reported during the 2014-15 season. Additional information is in the weekly FluView reports available at: www.cdc.gov/flu/weekly/. **NOTE:** Influenza surveillance in the U.S. will continue through the summer months with condensed reports available at www.cdc.gov/flu/weekly/; the full FluView resumes on October 16, 2015. [FluView interactive](#) will be updated over the summer months.

International: Globally, influenza activity continued in the Southern Hemisphere with an increase in Oceania, peaking in temperate South America, and decreased activity in South Africa. In Australia and New Zealand, influenza B predominated followed by influenza A(H3N2). Summary information is available at www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/.

Influenza Positive Tests Reported to CDC by U.S. WHO/NREVSS Collaborating Laboratories, National Summary, 2014-15





MDHHS 2015-16 FLU VACCINE MATERIALS

MDHHS flu education materials for the 2015-16 season have been [posted](#). You can also go to www.michigan.gov/flu and click on 'Current Flu Season Vaccination Materials for Health Care Professionals.' Materials for 2015-16 include:

- Quick Looks at Inactivated Influenza Vaccine (IIV) and Live Attenuated Influenza Vaccine (LAIV)
- 2-dose algorithm for children 6 months – 8 years
- Egg-allergy algorithm
- How to administer influenza vaccines (intramuscular, intranasal, intradermal)
- Flu vaccine presentation chart
- And more!

AVIAN INFLUENZA NEWS IN NORTH AMERICA

- [Poultry farms increase biosecurity measures before fall's wild bird migration](#)
- [All South Dakota turkey farms hit by bird flu restocked, recovering](#)
- [Iowa to participate in national avian influenza surveillance effort](#)
- [USDA drops ban on bird imports from Ontario](#)
- [Bird flu outbreak affects classes at Iowa State](#)
- [OSU Extension calls for voluntary poultry registration](#)

AVIAN INFLUENZA A(H5N1), A(H7N9) NEWS

- [Vietnam reports H5N1, H5N6 outbreaks in poultry](#)
- [H5N1 hits more farms in Ivory Coast, Nigeria](#)
- [Vaccine: Sex differences in H7N9 influenza A virus pathogenesis](#)
 - Females of childbearing age displayed increased tendency to die of H7N9 than males (human cases)
 - Mouse model: females had more severe disease than males when infected with H7N9, 2009 H1N1, and H3N2
 - Morbidity, mortality most significantly affected in H7N9-infected female mice
- [PLoS ONE: Surveillance of avian H7N9 virus in various environments of Zhejiang Province, China before and after live poultry markets were closed in 2013-14](#)
 - H7N9 prevalence in environmental samples oscillated seasonally, regardless of whether live poultry markets were open
 - Presence in environmental samples positively correlated with number of human H7N9 cases

INFLUENZA-RELATED JOURNAL ARTICLES

- [Clinical characteristics are similar across type A and B influenza virus infections](#)
 - French study found children aged 5-14 years more likely to have been infected with flu B viruses compared to children aged 0-4 years, while patients aged 15-64 years were less likely
 - Males and patients diagnosed during the epidemic period were less likely to be infected with flu B viruses
 - Clinical illness produced by different virus subtypes was indistinguishable among patients
- [Development of high-yield influenza A virus vaccine viruses](#)
- [Influenza during pregnancy: the role of the nurse practitioner](#)
- [Pneumonia among adults hospitalized with lab-confirmed seasonal flu - U.S., 2005-2008](#)
 - Pneumonia present in nearly 1/3 of adults hospitalized with flu, also associated with ICU admission and death

OTHER INFLUENZA-RELATED NEWS

- [Flu cases already popping up in Houston area](#)
- [Iowa reports H1N1v case, 10th variant flu case in Iowa since 2005](#)
- [CDC: Seasonal influenza vaccine supply for the U.S. 2015-16 flu season](#)
- [CDC: Snapshot: healthcare personnel in long-term care](#)
- [University of Maryland researchers receive support to study testing methods for influenza](#)
- [Thousands of fowl culled in Taiwan as avian influenza spreads](#)
- [NIAID researchers advance development of universal flu vaccine](#)

FLU WEBSITES

www.michigan.gov/flu
www.cdc.gov/flu
www.flu.gov
<http://vaccine.healthmap.org/>

Archived editions of FluBytes are available [here](#) and MI FluFocus archives are [here](#).

For questions or to be added to the distribution list, please contact Stefanie DeVita at devitas1@michigan.gov.

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